

Wayne Dresser RCRA Corrective Action Facility
Salisbury Maryland
EPA Review

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Topic	DII/ERM Submittals (Since July 2020 Unless Otherwise Specified)	New or Continued EPA Tentative Review Findings	DII Next Steps
Introduction	Submittals since July 2020: <ol style="list-style-type: none"> 1. September 4, 2020 Soil Exposure Assessment 2. September 11, 2020 Groundwater Validated Laboratory Report Compilation 3. September 25, 2020 PCB ICM Completion Report 4. October 19, 2020 Cover letter, three January 2020 presentations (Soil to Groundwater; AOCs and SWMUs; and Groundwater Sampling Plan) and twelve area interactive summaries, 5. December 2, 2020 Contiguous Parcel Evaluation Summaries 6. February 12, 2021 Updated Soil Data Package 7. March 11, 2021 Response to EPA Request for Chromium Data Validation Reports 8. May 10, 2021 Completion Report, Interim Corrective Measures, Remediation of Impacted Soils 	<p>EPA reviewed existing and new submittals to identify information needed to reach and/or support a remedy decision, and to identify tentative findings leading to a remedy decision.</p> <p>EPA's findings below are tentative and may be revised pending further review in advance of the remedy decision.</p>	<p>If information requested by EPA below already is submitted, identify the existing submittal where the information may be found</p>
Contiguous North, East and South Parcels	Adjacent Parcels Evaluation Summary for the Dresser Inc. Facility transmitted to EPA with a cover letter from Applied Environmental Management on behalf of DII, dated December 2, 2020.	EPA finds the North Parcel, the East Parcel, and the South Parcel can be included in definition of the Facility for the purpose of RCRA Corrective Action.	

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		<p>For the North Parcel, as EPA has agreed in the past, EPA's tentative remedy decision will rely on existing results from past investigation and propose no further action other than access to monitor groundwater contamination that originates from the former Manufacturing Parcel and protection of associated monitoring wells.</p> <p>For the East and South Parcels, EPA will propose institutional controls consistent with the former Manufacturing Parcel.</p>	
Constituent Specific			
Chromium	<p>March 11, 2021 submittal stating some samples which DII used to demonstrate chromium groundwater attainment in its November 27, 2019 submittal were not validated and laboratory packages needed to complete such data validation were not retained.</p> <p>DII's November 27, 2019 submittal relied on a minimum of eight (8) results from 17 wells to demonstrate chromium in groundwater is attained to below its tentative preliminary remediation goal of 100 ug/l.</p> <p>Results from six sampling events from eleven wells and one sampling event from six wells were not validated.</p> <p>DII's March 11, 2021 submittal proposes multiple lines of alternate evidence to support all the data are valid.</p>	<p>EPA accepts attainment for chromium in groundwater to its tentative preliminary remediation goal of 100 ug/l is demonstrated with the following conditions:</p> <ol style="list-style-type: none"> 1. The following apply to soil and groundwater at and within a 15-yard buffer zone surrounding the chromium soil and groundwater remedy: <ol style="list-style-type: none"> i. No dig unless EPA provides an approval in writing in advance. ii. The following are not to be placed on or in soil or groundwater unless EPA provides an approval in writing in advance: 	

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		<div><div><div>a) Chemicals</div><div>b) Alkaline materials</div><div>c) Oxidants</div></div><div><div>iii. A groundwater pH of less than 8 is to be continuously maintained.</div><div>iv. Confirmation sampling and/or monitoring in soil and/or groundwater for chromium, hexavalent chromium, pH, and/or any other parameters EPA deems necessary to demonstrate the status of the chromium remedy is to be conducted upon request by EPA.</div><div>2. Split samples or duplicate samples collected for any purpose are to be provided to EPA upon request for the purpose of demonstrating the status of the chromium remedy</div><div>3. EPA is to be notified at least 2 weeks in advance of any planned sampling at the Facility.</div><div>4. EPA may analyze split samples or duplicate samples for any analyses it deems necessary to demonstrate the status of the chromium remedy.</div><div>5. EPA may collect any additional samples it</div></div></div>	

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		<p>deems necessary to demonstrate the status of the chromium remedy.</p> <p>6. All sampling and test results and other data and information associated with showing the status of the chromium remedy is to be provided to EPA promptly upon receipt.</p>	
Fluorinated Substances	DII's February 2019 Presentation	<p>EPA further revisited it's April 5, 2019 finding that it could not confirm or deny DII's February 2019 presentation and EPA's acceptance of DII's findings of little likelihood that PFAS/PFOAs were used at the Facility, unless additional information becomes available that indicates a different outcome.</p> <p>EPA's further review was triggered by greater reporting of PFAS releases from chrome plating.</p> <p>EPA now finds that while it generally agrees with DII's finding, it has not ruled out the possibility of use of fluorinated substances at the Facility either during hard plating from the 1965 to 1974 time-period or any other period.</p>	Provide Facility specific information on the history of use, if any, of fluorinated substances at the Facility.
Naphthalene		<p>EPA's proposed remedy decision will apply then current Regional Screening Levels.</p> <p>EPA added an oral cancer route to its naphthalene screening level in its May 2020 Regional Screening Level Tables.</p>	<p>1. Revise relevant documents to reflect the following for naphthalene:</p> <p>a. The tap water screening level is revised down from 0.17 ug/l to 0.12 ug/l.</p>

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		Regarding EPA's earlier concern that existing VOC soil data for naphthalene may under-report actual concentrations, EPA finds existing VOC soil results where soil samples were extracted by methanol dilution are acceptable. However, existing VOC soil results where EPA extraction method SW-846 Method 3035A without methanol dilution was used may under report actual concentrations.	<p>b. The composite worker screening level is revised down from 17 mg/kg to 8.6 mg/kg. (Such is correctly reflected in DII's 9-4-2020 Soil PRG submittal.)</p> <p>c. The generic risk-based soil screening level for protection of groundwater based on a cancer risk of 1×10^{-06} and a hazard quotient of 1 is revised from 5.4×10^{-4} mg/kg to 3.8×10^{-4} mg/kg.</p> <p>The construction worker screening level of 1.96 mg/kg remains unchanged.</p> <p>2. Based on the attached "Differences in Naphthalene Soil Concentrations Between Methods 8260 and 8270", Ross Brittain, Ph.D., March 23, 2021, future naphthalene analyses are to be via both VOC and SVOC methods at detection limits less than associated screening levels. The greater result between the two is to be used in decision making.</p>
Laboratory Reports and Data Validation	<p>1. 2011 PCB Soil Data Level 3 and Level 4 data validation reports in electronic files dated October 14, 2014 and October 28, 2014, respectively.</p> <p>2. Completion Report for Interim Corrective Measures Remediation of PCB-Impacted Soils dated October</p>	<p>EPA findings on February 11, 2021 Data Usability Assessment:</p> <p>EPA is not ruling out that unacceptable risk for anticipated future use exists and/or will be discovered in the future. This is because much</p>	<p>1. For each sample used to support the remedy decision, provide</p> <p>a. Full laboratory reports and not only Form 1's.</p>

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	<p>2019 data validation summaries for sample delivery groups 14110601, 14111401, 14112004, 14120118, and 14120217 (soil samples collected around excavation perimeters and stockpile areas in 2014)</p> <p>3. Groundwater Environmental Indicator submittal dated September 5, 2018 with validated Form 1 Reports for the following:</p> <ul style="list-style-type: none"> a) Site Wide Monitoring Events: <ul style="list-style-type: none"> (i) April-May 2016 (ii) October-November 2016 (iii) March 2018 b) Off-Site Grab: <ul style="list-style-type: none"> (i) October 2016 (ii) August 2017 (iii) March 2018 (iv) July 2018 c) North Parcel Irrigation Well: <ul style="list-style-type: none"> (i) October 2016 d) On-Site Monitoring: <ul style="list-style-type: none"> (i) August 2016 (ii) February 2017 e) Off-Site Monitoring: <ul style="list-style-type: none"> (i) April 2018 (ii) July 2018 <p>4. December 23, 2019 submittal of partial Laboratory Reports (Form Is) with data qualifiers for the following:</p>	<p>of the soil data that EPA is relying on to support the remedy decision is not validated.</p> <p>EPA would find the same regardless of how such came to be. In this case, EPA notes the following:</p> <ol style="list-style-type: none"> 1. For almost every workplan that DII submitted to EPA for comment, EPA's comments found that data was to be validated. Instead since 2004, DII agreed only to request from the laboratory an EPA Contract Laboratory (CLP) type data package and conduct data validation if warranted. 2. DII's December 2004, August 2008, and June 2010 Workplans show DII was to request the CLP like packages to support data validation, but DII's February 2021 submittal shows DII did not. 3. EPA's June 2014 Work Request requested DII to provide all data validation reports. 4. DII did not submit most soil data for the period from 2010 to 2019 until August 2019, at which time EPA sought associated data validation reports. 	<p>b. Provide full data validation reports and not only validated Form 1's.</p> <p>2. Provide a summary chart of all samples used to support the remedy decision <u>and</u> where associated laboratory reports and data validation/usability reports can be found.</p>

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	<ul style="list-style-type: none"> a) November 2018 Site Wide Groundwater Monitoring Activities b) March 2019 Chromium Groundwater Monitoring Event (MWs 4, 7, 43, 44, 45, 46, 47 & 48) c) May 2019 Chromium Groundwater Monitoring Event (MWs 4, 7, 44, 46, 47 & 48) d) August 2019 Chromium Groundwater Monitoring Event (MWs 4, 7, 43, 47 & 48) <p>5. (New): September 11, 2020 Compilation of Phase I data summaries for groundwater samples along with copies of Form 1 pages with data qualifiers for samples submitted in #3 and #4 above</p> <p>6. (New) February 12, 2021 submittal of the following (associated w soil samples):</p> <ul style="list-style-type: none"> a) Appendix B-Data Validation Reports <ul style="list-style-type: none"> (i) DVR-December 2019-SPLP (ii) DVR-June 2020-BE-211 (iii)DVR-June 2020-EA-3F Area b) Appendix C- Data Usability Assessment for Six Soil Sampling Events, Dated February 11, 2021- 2097 pages- addresses the following: <ul style="list-style-type: none"> i. Six soil sampling events from March 		

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	<p>2006 to November 2010:</p> <ul style="list-style-type: none">a) March & April 2006- soils near the sewer system for the manufacturing areasb) May 2007 - soils near a sump in northeast area of former manufacturing structure and to support construction of MW-14c) October 2008 - soils at eight site areas per Workplan to Complete the RCRA Facility Investigation at the Dresser Inc. Facility dated August 14, 2008.d) June and July 2010 - soils near the former chrome plating pit per Interim Measures Workplan submitted in April 2010.e) July 2010- soils in eleven site areas and a rail spur per July 2010 Supplemental Investigation Workplan, RCRA Facility Investigation, dated June 30, 2010.f) November 2010- soils at nine site areas after building/structure demolition and before regrading was conducted <p>ii. Four samples of imported soil placed at excavated areas in 2014 following the removal of PCB contaminated soil</p>		

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	<p>7. (New) March 11, 2021 letter from ERM on behalf of DII stating data validation was not conducted and is not possible for chromium groundwater samples collected from February 8, 2012 to April 2016 because laboratory data packages necessary to complete the data validation were not retained. Yet DII used that data as part of its November 27, 2019 demonstration that chromium has attained its groundwater goal of 100 ug/l. The March 11, 2021 submittal includes multiple lines of alternate evidence to support the data are valid. EPA's review findings are in the separate discussion of Chromium.</p>		
Soil			
PCB Soils	<p>Response to Comments dated September 25, 2020 responding to EPA comments of April 20, 2020 and July 6, 2020 on "Completion Report - Interim Corrective Measures, Remediation of PCB-Impacted Soils" dated October 2019 (the "ICM Completion Report").</p>	Refer to DII Next Steps	<p>EPA accepts DII's September 25, 2020 responses except for the following:</p> <ul style="list-style-type: none"> i. Revise Site Wide Soil Summary and Aroclor 1254 Input Data to reflect the following handwritten corrections in the Level 4 Data Validation for the 2011 PCB Data: <ul style="list-style-type: none"> a) Level 4 DV P. 13: unexcavated BE-137 (10-11) PCB 1254. Result is 0.25 mg/kg instead of 0.2 mg/kg b) (Updated) Level 4 DV PCB 1254 result for unexcavated BE-137 (9-10) on page 12. Result is 0.31 mg/kg

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			<p>instead of 0.3 mg/kg (<i>updated from earlier comments to use result on page 12 instead of pages 17&18</i>)</p> <p>c) (New) Level 4 DV p. 11: For BE-137 (8-9'), a handwritten note in data validation summary. Result is 0.26 mg/kg and ProUCL file submitted on 9-4-2020 and dated 8-14-2020 shows 0.3 mg/kg.</p>
2019-2020 Soil Sampling and Removal Activities	<p>For soils sampled in December 2019 and June 2020, associated laboratory and data validation reports were submitted in February 2021 and no longer remain outstanding.</p> <p><i>Interim Corrective Measure Work Plan for Soils, Dresser Inc. Facility, 124 West College Avenue, Salisbury Maryland</i> dated July 2020 (the “July 2020 Work Plan”) as revised by responses to comments submitted August 17, 2020.</p> <p>A "Completion Report, Interim Corrective Measures, Remediation of Impacted Soils" prepared by Environmental Resource Management, Inc. on behalf of DII Industries, LLC was submitted on May 10, 2021</p>	<p>Soils were sampled in December 2019 and June 2020.</p> <p>Sample results were used to plan the limits of soil removal/excavation.</p> <p>On August 17, 2020, EPA accepted the <i>Interim Corrective Measure Work Plan for Soils, Dresser Inc. Facility, 124 West College Avenue, Salisbury Maryland</i> dated July 2020 (the “July 2020 Work Plan”) as revised by responses to comments submitted August 17, 2020.</p> <p>The "Completion Report, Interim Corrective Measures, Remediation of Impacted Soils" shows the removal was completed in accordance with the EPA approved workplan except for a slight modification in field to the southern limit of excavation at the EA-3F Area</p>	

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		<p>due to the presence of Well MW-65 in the area.</p> <p>EPA accepts the Completion Report as documentation of the extent of removal that was completed.</p> <p>Findings related to naphthalene are in the separate naphthalene discussion.</p>	
Comprehensive Site Wide Soil Data Tables	<p>February 2021 Update to August 2019 Comprehensive Site Wide Summary Soil Data Tables.</p> <p>Includes:</p> <ol style="list-style-type: none"> 1. Twenty Soil Data Tables showing soil data collected from 2000 to 2020 <ol style="list-style-type: none"> a. Table 1 identifies each sample, its corresponding laboratory sample delivery group number (file name); and whether associated results represent conditions that remain at the site b. Tables 2 to 6 and 17 are all sample results, unscreened c. Tables 7 to 11 are unexcavated and untreated soil results from 0 to 15 feet below the ground surface, screened against composite worker regional screening levels d. Tables 12 to 16 are unexcavated and untreated soil results from 0 to 16.5 feet below the ground surface (avg depth to groundwater), screened against soil screening levels for protection of 	<p>With regards to DII's previous site wide soil summary submittal of August 2019, EPA finds the only remaining usable item is a folder labeled "Lab Reports". However, only summary data and not the full lab reports are provided.</p> <p>EPA review of the data usability report is in the separate Data Validation section</p> <p>Refer to Next Steps for further review findings.</p>	<p>EPA accepts DII's responses to EPA's previous comments on the site wide soil summary except that DII is to provide following:</p> <ol style="list-style-type: none"> 1. Add soil data collected during other investigations - including <ol style="list-style-type: none"> i. Dresser ii. Prospective purchasers to include the June 2003 Phase I and II Environmental Assessment prepared for H.H. Quillen & Co by Ten Bears Environmental LLC iii. UST Removals including West Fuel Services iv. Investigations described in Table 2 of the June 2003 Phase I and II Environmental Assessment prepared by Ten Bears Environmental LLC 2. Add pH data - per the findings of the Ten Bears Report.

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	<p>groundwater</p> <ul style="list-style-type: none"> e. Table 18 is untreated soil sample results analyzed via SPLP for comparison to groundwater screening levels f. Table 19 is USEPA split sample results; and g. Table 20 is sample results of imported soils placed at the Site in 2014 after PCB contaminated soils were removed <ul style="list-style-type: none"> 2. Nine laboratory reports and four data validation reports for soil samples collected since August 2019 3. A data usability assessment report 4. EPA split sample results (13 split samples) 5. Two figures: <ul style="list-style-type: none"> a. Soil sample locations b. Soil boring locations 6. Soil boring logs <ul style="list-style-type: none"> a. 2008: BE-20 to 74 b. 2010: BE-75 to 135 c. 2019: BE 210 to 219 		<ul style="list-style-type: none"> 3. Add PCB analytical data results for the following to the Site Wide Soil Summary: Borrow Source Materials: Backfill-1, Backfill-2, Backfill-3, and Topsoil-1 4. With regards to samples labeled “MS/MSD” in the summary tables, clarify reported results are only those constituents which were not spiked. 5. The folder labeled “Laboratory Reports” in the August 2019 Site Wide Soil Data Submittal contains only summary data and does not contain full laboratory reports. DII is to provide the full laboratory reports.
Interactive Summaries	<p>Appendix B to October 19, 2020 Cover Letter consisting of:</p> <ul style="list-style-type: none"> 1. Overview of SWMUs and AOCs (DII January 2020 Presentation) 	<p>EPA finds:</p> <ul style="list-style-type: none"> 1. These summaries are informative and helpful. However, additional information is needed. 	<ul style="list-style-type: none"> 1. Revise to address the site wide Facility via subdividing the Facility into areas to include: <ul style="list-style-type: none"> a. Areas in EPA's June 2014 Dresser

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	<p>2. Figure 1: Areas of Concern/Solid Waste Management Units</p> <p>3. Figure 2: Areas of Concern - Soil Waste Management Units (Inset)</p> <p>4. Table 1: Soil Sample Summary Table</p> <p>5. Area specific interactive summaries for the following twelve areas:</p> <ul style="list-style-type: none"> a. Area 1(1): SWMU No. 1 "Pre-Treatment Building/ Wastewater Treatment System" (including chip drainage pit and waste oil UST) and Proximal Discolored Soils b. Area 1(2): SWMU No. 7 WW storage systems (including caustic wastewater storage tanks and the emergency/caustic wastewater storage lagoon) and Proximal Discolored Soils) c. Area 1(3): Steam Shed d. Area 2: SWMU No. 2 - Solvent-based fuel pump painting area and wet test stands area -Includes the LNAPL Area e. Area 3: SWMU No. 3 - Globe Hoist Painting and Plating Area 	<p>2. The summaries are to be extended site wide.</p>	<p>Summary Chart</p> <ul style="list-style-type: none"> b. Areas identified in investigations described in Table 2 of the 2003 Phase I and Phase II Environmental Site Assessment prepared by Ten Bears Environmental LLC c. DII 2008 No Further Characterization Areas d. the “Maintenance Shop” which also appears on Figure 2, Site Map, on electronic page 172 in Volume 1 of the 2003 Additional Investigation Report e. Results of the 2005 Soil gas study and follow investigations in 2006 and 2007. f. The layer of black material observed throughout the upper soil layer g. Rail line use areas (PCBs) <p>2. Revise Figures and Table to include "Unexcavated Soil Samples from Other Investigations" to include soil data generated by Ten Bears, West Fuel Services, and investigations described in</p>

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	<ul style="list-style-type: none"> f. Areas 5(1) & 5(2): SWMU No. 5 – Waste storage areas (Area 5(1)) as expanded to include the pump tear down area (Area 5(2)) g. Subsurface features associated with manufacturing (Area 7) h. Forklift Service Area (Area 13) i. Former meter test and anaerobic impregnation area (Area 14) j. Degreaser/machined parts washer area (Area 15) k. Transformer pads/former PCB-containing equipment (removed)– Former West Side Transformer Room (Area 16(2)) l. Transformer pads/former PCB-containing equipment (removed)– Former East Side Transformer Room (Area 16(3)) 		<p>Table 2 of the 2003 Phase I and Phase II Environmental Site Assessment prepared by Ten Bears Environmental LLC and also add the soil gas results findings</p> <p>3. Revise Table 1 Soil Sample Summary Table to show where each sample is used in the interactive summaries</p> <p>4. For each Section 1-Narrative, add the following:</p> <ul style="list-style-type: none"> a. First and last year of associated operation. b. Waste management practices from first year of generation to last year of generation. c. Remaining features and associated status with respect to contamination and potential to pose an exposure risk in the future d. History of known or suspected release e. Extent if any that analytical detection limits exceeded PRGs f. Findings and an update to such from previous investigations -including the 2003 Phase I and II ESA prepared by Ten Bears

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			<p>g. Data Gaps associated with constituents and/or lateral or vertical sample locations</p> <p>5. For each Section 2, revise to address the following:</p> <p>a. For the constituent list on the left:</p> <p>i. Add respective PRGs</p> <p>ii. Add pH</p> <p>iii. Add constituents from "Unexcavated Soil Samples from Other Investigations"</p> <p>b. For each figure:</p> <p>i. Display sample labels. This is needed because the only way to learn a sample label is if you click on an individual sample location. Transparent sample identities are needed to interpret the interactive summaries.</p> <p>ii. Add "Unexcavated Soil Samples from Other Investigations"</p> <p>iii. Verify each sample displayed in the chart is also displayed in the figure. Such is unclear for Area 1(3) Steam Shed where some samples likely overlap.</p>

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			<p>iv. Display:</p> <ul style="list-style-type: none">a) Remaining featuresb) Lateral and vertical extent of clean fill. Such is needed to show why few surface samples represent remaining conditions at areas- eg. Area 3/SWMU 3.c) LNAPL extentd) Soil gas results <p>c. For each data graph on the right side:</p> <ul style="list-style-type: none">i. Add "Unexcavated Soil Samples from Other Investigations"ii. Link sample locations to figure- so when you click on each sample on the graph, it is highlighted in the figure.iii. Provide a summary of associated data used. <p>6. For Section 3, Preliminary Remediation Goals (PRGs), provide such in a separate document, instead of having the same description in each summary. For</p>

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			<p>each PRG, provide the following:</p> <p>a. The PRG</p> <p>b. Its basis. This is needed because the descriptions transparently describe the basis for non-COPCs but not COPCs. Instead, the text refers readers to a different document to learn the basis for COPCs. Further, the basis applied to COPCs is different than the basis for non-COPCs. Thus a clear and transparent description of the basis for each is needed.</p> <p>b. The range of detection limits.</p> <p>c. If the PRG section is retained in each Interactive Summary, fix the display so the upper content is readable on a small screen.</p> <p>7. Area 2/SWMU 2, Section 1, Further Characterization:</p> <p>Revise to acknowledge the LNAPL source is in a soil horizon below the current top of the groundwater and the quantity of LNAPL measurements when a measurable thickness was found compared to total # measurements and span of years.</p>

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			<p>8. Area 3/SWMU 3, Section 1, Soil Sample Data Summary:</p> <p>Revise to acknowledge follow up soil sampling has not been conducted to demonstrate chromium impacts remaining in soil, compared to elevated concentrations found in soil before the in-situ gw remedy was implemented.</p> <p>9. Area 5/SWMU 5:</p> <p>Revise Section 2 to omit constituents not analyzed.</p> <p>10. Area ID 14: Former Meter Test and Anaerobic Impregnation Area</p> <p>Describe how meters were tested and associated materials used to test meters.</p> <p>Describe if mercury release may be associated with this area.</p> <p>Describe the sealant used to seal dispenser components.</p>
Soils Data Gap Assessment	<p>October 19, 2020 Cover Letter and the following three presentations from a January 2020 meeting:</p> <p>1. Soil to Groundwater Presentation (electronic pages 6</p>	EPA finds constituent data gaps and unsubstantiated findings of no further action exist, details of which are presented below.	<p>1. With respect to the data gaps which EPA identifies in the EPA Findings in the column to the left, show the following:</p>

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	<p>to 52)</p> <p>2. Overview of Solid Waste Management Units and Areas of Concern (electronic pages 54 to 100)</p> <p>[includes two accompanying figures, one table and the separately provided twelve area specific interactive summaries]]</p> <p>3. a Groundwater Sampling Program Presentation (electronic pages 101 to 125)</p>	<p>Thus:</p> <p>1. DII is to plug data gaps and expand its interactive summaries to Facility wide; and</p> <p>2. EPA anticipates proposing exposure protections, discovery notification requirements, and a soil management plan in its proposed remedy.</p> <p><u>Unsubstantiated Findings of No Further Action:</u></p> <p>DII has not substantiated its findings of "no further characterization warranted" for areas identified in ERM's August 2008 Workplan. EPA's review of ERM's August 2008 Workplan and EPA's September 11, 2008 acceptance email message finds the following:</p> <p>1. In its August 2008 Workplan, ERM presented its conclusions without support and proposed remaining work.</p> <p>2. EPA's response found one comment associated with the proposed work and stated, "The rest of the plan is acceptable".</p> <p>DII must substantiate its findings for the remedy decision.</p>	<p>a. Show such is appropriately investigated and/or remediated and thus not a data gap; and/or</p> <p>b. Propose a remedy to address the uncertainty associated with the data gaps, including discovery notification requirements, exposure protections and a soil management plan; and/or</p> <p>c. Submit a workplan to plug data gaps.</p> <p>2. Extend interactive summaries to Facility wide.</p> <p>3. Provide the following (for the administrative record):</p> <p>a. Summary of each boring advanced to date for the RCRA Corrective Action Investigation, the document where each associated boring log can be found or boring log if not already submitted</p> <p>To include onsite and offsite borings advanced since October 4, 2012, including vertical delineation borings and borings for the following: Wells MW-43 to 68 and MW-OS-1 to 3.</p>

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		<p><u>Data gaps include:</u></p> <p>1. The following data gaps EPA identified in earlier comments that DII has either not adequately or not at all addressed:</p> <p>a. Describe whether concentrations of hexavalent chromium and total chromium that remain in soil by the former Chromium Plate Pit following the in-situ remedy are properly characterized.</p> <p>EPA provided to DII the example that cross section A-A' in Figure 3 to DII's July 26, 2011 Workplan shows 68.1 mg/kg Chr (IV) existed in subsurface soil before the in-situ remedy.</p> <p>DII responds on page 75 of its October 2020 submittal that chromium soil results are not provided in figures for SWMU 3 “because related soil impacts have already been and thoroughly reported and remediated.”</p> <p>However, DII's chromium groundwater remedy did not remove chromium from soil. Instead, the remedy changed chromium from a hexavalent chromium to trivalent chromium. Chromium that was in</p>	<p>b. Summary of each well installed for the RCRA Corrective Action Investigation to date, and the document where each associated well construction log can be found, or well log if not already submitted</p> <p>To include wells listed in Table 1 of the September 2018 Groundwater Environmental Indicator including the following: Wells MW-43 to 68 and MW-OS-1 to 3.</p>

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		<p>the groundwater precipitated out to soil and is now in its trivalent state at the bottom of groundwater. Chromium that was in the soil above the groundwater before the remedy remains in the soil- either in a hexavalent state where soils were untreated or in trivalent state where soils were treated.</p> <p>EPA finds the only chromium soil data that exists is that which DII collected before DII implemented its chromium groundwater remedy.</p> <p>b. Describe the status of contaminated soil areas found in the 2005 soil gas survey.</p> <p>EPA review of DII's October 2020 submittal finds such information remains unknown.</p> <p>For background, before the manufacturing plant was demolished in 2010, DII conducted a soil gas study in 2005 and follow up investigations in 2006 and 2007. DII's 2005 soil gas study found increasing concentrations of soil gas contaminants near the former manufacturing structure. DII's follow up investigations in 2006, 2007 and thereafter have failed to identify</p>	

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		<p>potential sources. Thus EPA finds the extent if any a source to the soil gas contamination remains within the footprint of the former structure is unknown.</p> <p>2. More recently identified data gaps:</p> <p>a. The layer of black material observed throughout the upper soil layer.</p> <p>b. Data Gaps in the Interactive Summaries that DII submitted in October 2020:</p> <p>Inorganic Analyses</p> <ul style="list-style-type: none">• SWMU 2: Solvent Based Fuel Pump Painting Area• SWMU 3: Globe Hoist Painting Area• Area ID 14: Former Meter Test and Anaerobic Impregnation Area (mercury?)• SWMU 3: Former Chromium Plating area (chromium) <p>PCBs:</p> <ul style="list-style-type: none">• Forklift Service Area (Area 13) <p>Shallow Soil:</p>	

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		<ul style="list-style-type: none"> AOC 7: PCBs 	
Direct Contact Exposure to Soils	September 4, 2020 Updated Assessment	Refer to Next Steps.	<p>EPA finds DII's September 4, 2020 letter and conclusions acceptable except for the following:</p> <ul style="list-style-type: none"> a. Add EPA's naphthalene results for split composite samples BE-213COMP and BE-216COMP collected in December 2019 to the ProUCL calculation b. Revise ProUCL input data for Aroclor 1254 as well as the Site Wide Soil Summary to reflect handwritten corrections in the Level 4 data validation report for the 2011 PCB investigation <p>Correct the submittal or explain the following associated with maximum concentrations reported in the September 4, 2020 submittal: These findings do not impact the identity of COPCs, (<i>Comments verbally provided to DII on 9/14/2020</i>)</p> <ul style="list-style-type: none"> a. The maximum concentration of acetone in subsurface soils was 0.29 mg/kg in the September 4, 2020 submittal and 0.436 mg/kg in the November 2019 submittal. The source of the 0.436

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			<p>mg/kg result appears to be Soil Sample SB-07 (3.5 to 4) collected on September 4, 2002. The result is reported on page 2 of 3 in Table 3 (electronic page 52) of the Tetra Tech Expanded Site Investigation Report dated January 2003. The result is confirmed on electronic page 19 of the Tetra-Tech 2002 laboratory report #8529488 submitted with the August 2019 Site Wide Soil Report. <i>(Comment verbally provided to DII on 9/14/2020)</i></p> <p>b. Text in the September 4, 2020 submittal shows only results for soils that will remain on site were used in the tables but results for the following recently removed soils remain:</p> <ul style="list-style-type: none"> i. ERM's PAH results for BE-211COMP (0.5 to 2.5) collected on December 9, 2019 ii. the tetrachloroethylene result of 1.6 mg/kg in EA-3F (1 to 1.5) collected on November 24, 2010
Soil to Groundwater Assessment	<p>DII's January 2020 Soil to Groundwater Pathway presentation submitted October 19, 2020</p> <p>DII proposes that extended monitored natural attenuation along with a protective long term- groundwater</p>	DII used modeling to identify where soil removal is needed to protect groundwater and/or support the groundwater remedy of monitored natural attenuation.	<p>Provide the following:</p> <ul style="list-style-type: none"> 1. Soil to groundwater preliminary remediation goals to support decision on whether soil removal is needed

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	monitoring plan eliminates the need to protect groundwater from existing source contaminants.	EPA finds a detailed description of the procedure applied is provided. However, additional information is needed.	<ul style="list-style-type: none">2. Where modelling is relied on to show soil removal is not needed, provide the following:<ul style="list-style-type: none">a. Example calculations used to predict constituent concentrations and lengths of time [to (a) peak and (b) below screening criterion].b. Inputs/outputs for each step of the soil to groundwater pathway evaluation.c. Updated findings reflecting more recent sample results and removals.d. For selection of soil COPCs, a summary by constituent of # of sample events, range of results, soil screening level basis (MCL, Site specific PRG, or RSL), # screening level exceedances, locations and dates of screening level exceedances, and whether or not the constituent was selected as a COPC.e. For selection of COPC soil sample locations, for each COPC soil sample, a summary of the following:<ul style="list-style-type: none">i. Dates and lengths of time when impermeable features (e.g., tarp,

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			<p>structure, paving, etc.) existed over the COPC soil sample location</p> <p>ii. Groundwater sample locations, groundwater sample type, dates & COPC results in downgradient groundwater after impermeable features over the COPC soil sample location were removed</p> <p>iii. Groundwater screening level and screening level basis; and</p> <p>iv. Whether the COPC soil sample was retained for further evaluation.</p> <p>f. With respect to the figure on electronic page 28 showing 69 locations where the detected soil concentration exceeded soil screening criteria for up to 16 constituents, show the 69 sample locations and respective depths. Additionally, provide a summary of each of the 69 soil sample locations, and for each location/depth, constituents exceeding respective soil screening criteria, associated result(s), screening criteria, and basis for the criteria.</p> <p>g. With respect to the figure on electronic page 29 showing 49 soil sample</p>

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			<p>locations where modeled concentrations of up to eight constituents exceeded groundwater criteria at the base of the vadose zone, show the 49 soil sample locations and respective depths, and of those, which are within the LNAPL area. Additionally provide an accompanying a summary of each soil sample location and respective depth, if it is in the LNAPL area, the constituents modeled to exceed the groundwater criteria at the base of the vadose zone before mixing, the modeled results before and after mixing, associated criteria and basis for the criteria.</p> <p>h. With respect to the figure on electronic page 30 showing 30 soil sample locations where modeled concentrations of up to eight constituents exceeded groundwater criteria at the property boundary, show the 30 soil sample locations and respective depth, and of those, which are within the LNAPL area. Additionally, provide a summary of each soil sample location and respective depth, if it is in the LNAPL area, the constituents modeled to exceed the groundwater criteria at the property boundary, the modeled result, screening criteria and basis for the criteria.</p>

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			<ul style="list-style-type: none">i. With respect to the chart on electronic page 41, add the following:<ul style="list-style-type: none">i. Dates when precipitation infiltration at the soil sample location was prevented by an overlying featureii. Dates of downgradient groundwater sample events and associated results after overlying impermeable features were removediii. Estimated maximum 95% UCLs at the bottom of the vadose zone before and after mixing zone dilution and associated estimated datesiv. Verify the computed property line concentration is the estimated maximum 95% UCLv. Estimated date or range of dates when the estimated 95% UCL at the former manufacturing parcel property boundary will peakvi. Estimated date or range of dates when the estimated 95% UCL in groundwater at the bottom of the vadose zone before mixing will

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			<p>begin to be less than the respective groundwater remedial goal</p> <p>vii. Estimated date when the estimated 95% UCL in groundwater at the former manufacturing parcel property boundary will begin to be less than the respective groundwater remedial goal; and</p> <p>viii. Provide estimated dates and estimated 95% UCLs based solely on modeled calculations and additionally based on adjustments reflecting Synthetic Leaching Precipitation Procedure results, along with the adjustment factor and basis for the adjustment factor (e.g., petroleum or chlorinated constituent).</p> <p>j. Remove from consideration in Step 6 “non-detection” in downgradient wells and/or “trending down” in downgradient wells if downgradient groundwater data was collected before the mass of release from soil reasonably could reach the monitored groundwater location, because many of the soil sample locations evaluated in Step 6 were selected in Step 3 because they had been</p>

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			<p>covered by a tarp and it is unclear if samples were collected when a release could be detected after the tarp was removed.</p> <p>k. For LNAPL, the estimated date and/or range of dates when the 95% UCL for LNAPL constituents at the base of the vadose zone before mixing will be less than respective groundwater remedial goals.</p>
Groundwater and LNAPL			
MNA Remedy and Future Long-Term Groundwater Monitoring Program	October 19, 2020 Cover Letter and transmittal of DII's January 8, 2020 presentation "Groundwater Sampling and Program Evaluation"	<p>DII's submittal shows a submittal is pending that will document DII's groundwater data evaluation using EPA's groundwater statistics tool, together with supplementary analyses completed to assess conditions at the Site and to support proposing monitored natural attenuation as the sole remedy for groundwater contamination at the site.</p> <p>DII's pending submittal will also propose a plan for monitoring groundwater at the site, which proposes monitoring wells and constituents, along with a proposed frequency of monitoring for each constituent at each proposed monitoring well.</p>	Refer to associated list below chart.

Topic	DII/ERM Submittals (Since July 2020 Unless Otherwise Specified)	New or Continued EPA Tentative Review Findings	DII Next Steps
		EPA's remedy decision will propose monitoring for groundwater use permits in Salisbury incorporated and unincorporated areas	
Corrective Measure Study	DII's commitment in its May 22, 2019 e-mail message to evaluate corrective measures for soils, groundwater and light non-aqueous phase liquid ("LNAPL")		<p>Include the following:</p> <ol style="list-style-type: none"> 1. Rationale in support of DII's activity and use limitations in the remedy, via the crosswalk EPA provided to DII on March 22, 2016; and 2. A ten-year cost-estimate.
Mapping			Provide maps of remedy decision institutional-controlled areas in real world coordinates for use in the environmental covenant that will follow the remedy decision.
City of Salisbury Communications	DII's commitment in its May 22, 2019 e-mail message to update the City of Salisbury regarding the status of work at the Salisbury facility and any changes in the nature or scope of the activity and use restrictions discussed with the City in November 2018		Maintain commitment
Remedy Decision Support Documentation Needed			For the Administrative Record, provide an electronic or scanned version of the September 13, 2006 report entitled "Final Report of the Soil Gas Survey, Soil and Ground Water Results for the Dresser, Inc. Facility, 124 W. College Avenue, Salisbury, Maryland."

MNA Remedy and Future Long-Term Groundwater Monitoring Program- DII Next Steps:

Provide/Describe the following:

1. What is meant by the statement on page 11 that the EPA's gw stat tool does not implement data transformations. Is the comment intended to state that the tool does not allow electronic transfer of data from a different source into the tool?
2. Why DII does not accept results generated by parametric transformations in EPA's statistic tool.
3. An electronic data set.
4. Factors to consider during development of a groundwater monitoring program, such as pending development plans, if any.
5. Modeling used to determine screen depths and lateral locations of monitoring wells MW-0S-1, MW-0S-2, and MW-0S-3.
6. Presence/absence of mobilized masses within the plumes
7. Plume extent migration rates
8. How DII will ensure maximum plume concentrations throughout the extent of each plume are monitored throughout the future
9. How DII will identify any change in the vertical and/or lateral location of each plume throughout the future and modify its monitoring accordingly
10. Data inputs and results for each calculation.
11. On a well-by-well basis, and constituent by constituent basis, for Facility-related constituents of particular concern (COPC) with a past concentration exceeding a respective groundwater remedial objective, provide the 95% upper confidence limit (95% UCL) and predicted attainment date inputting all data and the eight most recent data into the EPA statistical tool

12. On a well-by-well basis, and constituent by constituent basis, for COPCs with an increasing trend, describe whether the EPA statistical tool finds the 95% UCL will exceed its respective groundwater remedial objective in the future, when the exceedance is predicted to occur, and whether such finding is reasonable given real-world conditions and if not, why.
13. On a well-by-well basis and constituent by constituent basis, describe COPCs with an insufficient data set to calculate a 95% UCL using the EPA statistical tool and one or more of the following applies:
 - a. Existing groundwater data exceed the groundwater remedial objective
 - b. Potential exists for the 95% UCL to exceed its groundwater remedial objective if more data were collected
 - c. Existing data indicate an increasing trend exists with the potential for the 95% UCL to exceed the groundwater remedial objective in the reasonable future
 - d. Insufficient data exists to reach a conclusion
15. Predicted overall attainment date
16. Include the following in the proposed groundwater monitoring program:
 - a. Monitoring to show Groundwater Remedial Objectives will be attained and will continue to be attained throughout the volume of Facility-related release to groundwater, to include the following:
 - i. Monitor groundwater for Facility-related COPCs where the 95% UCL exceeds or reasonably will exceed its groundwater remedial objective in the future
 - ii. Monitor specific locations as well as other locations to be determined, as necessary, to show the maximum concentration of Facility-related constituents in groundwater to include the following:
 - a) Naphthalene immediately downgradient from the BE-211 area (DII commitment in 8/17/2020 submission)
 - b) Chlorinated volatile organic compounds immediately downgradient from the EA-3F area (DII commitment in 8/17/2020 submission)
 - c) Respective COPCs immediately downgradient from former tarped areas

- d) Respective COPCS immediately downgradient from other reasonably anticipated potential soil to groundwater source areas of concern
- e) LNAPL COPCs immediately downgradient from LNAPL areas
- iii. Monitor specific locations as well as other locations to be determined, as necessary, to show the maximum concentration of mobilized contaminant masses within the plumes, if any
- iv. Monitor specific locations as well as other locations to be determined, as necessary, to show the lateral and vertical extent that the concentrations of Facility-related constituents in groundwater exceed Groundwater Remedial Objectives
- v. For Facility-related releases of iron and manganese in groundwater:
 - a) Before EPA approves Groundwater Remedial Objectives for organic constituent COPCs are attained or default DeMinimus long term steady state conditions for organic constituent COPCs are attained, monitor redox conditions during each sampling event and the concentrations of Facility-related releases of iron and manganese less frequently.
 - b) After EPA approves Groundwater Remedial Objectives for organic constituent COPCs are attained or default DeMinimus long term steady state conditions for organic constituent COPCs are attained, monitor redox conditions and the concentrations of Facility-related releases of iron and manganese during each groundwater monitoring event as needed to show respective Groundwater Remedial Objectives are attained and will continue to be attained
- vi. In groundwater immediately downgradient from Facility soil treated to reduce chromium contamination in groundwater and in groundwater where hexavalent chromium was reduced to trivalent chromium, and a surrounding buffer zone:
 - a) Monitor pH to show a pH below 8 is maintained in such groundwater
 - b) Monitor chromium to show the concentration of total undissolved chromium remains less than 100 ug/l
- vii. Monitor groundwater for Facility-related COPCs where existing data is insufficient to show if the groundwater remedial objective is attained and will continue to be attained
- b. Monitor groundwater at sentinel locations to confirm potential on- and off-site receptors are protected

- c. Monitor groundwater levels in wells within the monitoring well network to discern groundwater flow patterns and the relationship among groundwater levels, precipitation events, and Facility related contaminant concentrations in groundwater
- d. Monitor groundwater in accordance with an EPA-approved Quality Assurance Project Plan
- e. Remove or relocate wells after written approval of EPA; and
- f. Decommission (close) unused wells in accordance with applicable state and/or local requirements.